Appendix A -Summary of Scoping Comments

United States Department of the Interior

BUREAU OF RECLAMATION
Snake River Area Office
214 Broadway Avenue
Boise, Idaho 83702-7298

IN REPLY REFER TO:

November 20, 1998

PN-6519
ENV-6.00

Subject: Arrowrock Dam Outlet Works Rehabilitation Project

Ladies and Gentlemen:

The Bureau of Reclamation (Reclamation) seeks your comments on our plans to correct deficiencies in the outlet works at Arrowrock Dam. The present outlet works consist of 20 Ensign valves and 5 sluice gates originally installed with dam construction in 1915. The valves and gates require excessive maintenance and have reached the end of their useful lives. Reclamation must address this issue and any significant impacts that might result.

Because significant environmental impacts are anticipated with this project, in compliance with the National Environmental Policy Act of 1969 (NEPA), Reclamation has begun the process to complete an environmental impact statement (EIS). The enclosed scoping document is the first step in the process. It describes the proposed action, notifies you of upcoming public meetings, and requests your input.

Your comments on issues related to the proposal will assist us in determining issues to be included in the EIS and may help in developing alternatives to our proposed action. Written comments for this step of the process will be accepted until December 28, 1998. Additional opportunities for comment will be provided when the draft EIS is distributed for public review.

If you have questions concerning the project, you may contact Mr. Steve Dunn of Reclamation's Snake River Area Office at (208) 334-9844.

Sincerely,

Jerrold D. Gregg
Area Manager

Enclosure

BUREAU OF RECLAMATION
SNAKE RIVER AREA OFFICE
BOISE, IDAHO

ARROWROCK DAM OUTLET WORKS REHABILITATION PROJECT

NEED FOR PROJECT:

ThecurrentconditionoftheArrowrockDamoutletworkspresentsan increasinglydifficultmaintenanceproblemfortheBureauof Reclamation(Reclamation).ThelowerrowofEnsignvalvesrequires inspectionandrepairasithasbeenover10yearssincethiswork waslastdone.

Thereservoirlevelmustbeloweredinordertoconductthisinspectionandmaintenance.This createsaproblemsincethesluicegateslocatednearthebottomofthedam,alsoinneedofrepair, mustbeoperatedtolowerthereservoirsufficientlyfortheworktobecompleted.Thereisa potentialforfailureofthesegatesduringuse,andsedimenttrappedbehindthedamisreleasedif thegatesareopened.

ThedesignoftheexistingvalvesalsolimitsArrowrockDam'soperationalflexibility.Thelower bankofEnsignvalvescannotbeusedunderhighpressurewhenthereservoirisfull.Thisreduces theabilitytoreleasewaterforfloodcontroloperationsinyearswithhighrunoff.

Reclamation's objectives are to correct deficiencies in the valves; reduce the difficulty and environmental impacts of future inspection and maintenance of Arrowrock Dam's outlet works; and provide increased operational flexibility.

THE DAM STRUCTURE AND CURRENT OPERATIONS:

ArrowrockDamislocatedontheBoiseRiver,about13miles eastofBoise,Idaho.Reclamationcompletedconstructionofthe damin1915,andatthattimeitwasthehighestdamintheworld. Thedownstreamfaceofthedamwasresurfaced,andtheheight wasincreased5feetin1937.

ArrowrockDamisaconcrete,thick-archstructure350feethighwithacrestlengthof1,150feet. Thedam'soutletworksconsistof20conduitsthroughthedamcontrolledby58-inchdiameter

Ensignvalves.Thesevalvesarearrangedintwohorizontalrowsof10withonerowatelevation 3105feet,whichis111feetbelowthereservoirhighwaterlevel,andtheotheratelevation 3018feet.Therearealsofivesluicegateslocatedatthebaseofthedamatelevation2967feet thatcanbeusedtodrainthereservoir(refertotheattacheddiagram).Aconcretespillway channelcontrolledbysixdrumgatesislocatedalongtherightabutmentofthedam.

ArrowrockDamisoneofthreeinstreamstoragedamsontheBoiseRiver.AndersonRanchDam islocatedupstreamofArrowrockontheSouthForkBoiseRiver,andLuckyPeakDamislocated ontheBoiseRiverdownstreamofArrowrock.ArrowrockReservoirisoperatedforirrigationand floodcontrol,incombinationwithAndersonRanchandLuckyPeakReservoirs.Ingeneral,water isstoredinArrowrockReservoirduringthewinterandspringaccordingtopredictedrunoffand floodcontrolrequirements.BeginninginApril,waterisreleasedforirrigationfromArrowrock andAndersonRanchReservoirsuntilearlySeptemberwhenLuckyPeakReservoirisdraftedto meetirrigationdemands.LuckyPeakReservoir'swaterelevationiskepthighthroughmostofthe summerforrecreation.

ReclamationnormallyoperatesArrowrockReservoirtomaintainaconservationpool,intendedto benefitfishandwildlife,ofapproximately29,000acre-feet.Historically,ithasbeennecessaryto drafttheconservationpoolformaintenance,floodcontrol,andwatersupplyindroughtyears.

Inthepast,inspectionandrepairofthelowerrowofvalveshavebeendoneduringdroughtyears whenArrowrockReservoirwasalreadyquitelow.Themostrecentinspectionwasconducted in thefallof1987whenArrowrockwasessentiallydrained.

EXISTING PROBLEMS:

TheEnsignvalveshavereachedtheendoftheirusefullife,resulting incomplexoperationalandmaintenanceconcerns.Mostofthe valveshavebeendamagedduring80yearsofuse,andthereisan increasingneedforfrequentinspectionandrepair.Threeofthe10 Ensignvalvesinthelowerbankarenolongerusable.Thefive sluicegatesarealsooldandoutdatedandinneedofmajorrepairs.

The Ensign valves controlling releases from Arrowrock Dam are the original valves installed in 1915.

InordertoaccesstheEnsignvalves, theymustbedewateredbylowering thereservoirlevel.Thisisnota problemfortheupperrow,since normaloperationsexposethese valvesbylatesummer.However,in ordertoinspectthelowerrowofEnsignvalves,thesluicegatesmustbeusedtodropthereservoir belowthevalveopenings.Theuseofthesluicegatesmaypresentaproblemsincetheytooare over80yearsoldandinneedofrepair.Repairofthesegateswouldrequireacomplete evacuationofArrowrockReservoir.Thereisalsoaconcernwithimpactstowaterqualitywhen usingthesluicegatessinceeverytimetheyareusedsediment,whichhasaccumulatedbehind them,isflushedfromArrowrockintoLuckyPeakReservoir.

Thecurrentconditionoftheoutletworksalsopresentsanoperationalproblemduringflood control.ThelowerrowofEnsignvalvescannotbeoperatedathighpressureduetotheirdesign andcurrentpoorcondition.Theycannotbesafelyoperatedwhentheyaremorethan100feet belowthewatersurface(reservoirelevation3118feet).Attimesitisdesirabletomovehigh flowsfromArrowrockReservoirintoLuckyPeak.Therestrictiononoperatingthelowervalves andtheinabilitytousethreeofthemcreateabottleneckinthesystematArrowrockDam.

PROPOSED ACTION:

Reclamation proposes to replace the 10 lower Ensign valves with clamshell gates. The design of the clamshell gates would permit future inspection and maintenance or repairs without the need to dewater the reservoir.

Theclamshellgateswouldallow releasesatanyreservoirlevels providingmoreoperational flexibility.Theremainingupper rowof10Ensignvalvesandthe sluicegatescouldbeabandoned, butleftinplace,whichwouldsignificantlyreducemaintenance.Installationoftheclamshell gateswouldoccurover2yearsduringthefallandwinter.

Since work during the first year would be on the downstream dam face, there would be no need to draw down Arrowrock Reservoir until the second year of construction. Lucky Peak Reservoir's water level would be maintained at about the normal fall water level during both years' fall/winter work period.

Thefirstyearwouldinvolveplacingsteelliners insidethelowerrowoftheoutletconduitsfrom thedownstreamdamfaceandconstructionofa valvecontrolhouseonthedam'sleftabutment. Sinceworkduringthefirstyearwouldbeon thedownstreamdamface,therewouldbeno needtodrawdownArrowrockReservoir. LuckyPeakReservoir'swaterlevelwouldbe maintainedaboutthenormalfallwaterlevel duringtheworkperiod.Thiswouldexposethe lowerrowofoutletsonthedownstreamsideof ArrowrockDamsoworkcouldbecompleted.

Inyeartwo,thesluicegateswouldbeusedto lowerthewaterlevelinArrowrockReservoir belowthelevelofthelowoutletrowinorder toremovetheEnsignvalvesandinstallthe clamshellgates.Thiswouldleavearelativelysmallpoolbehind ArrowrockDamthroughfalland winterandwouldinvolvesomeoperationalchangesatLuckyPeakandAndersonRanchDamsto maintaintherequiredwaterlevelinArrowrockReservoir.LuckyPeakwouldagainbe maintainedatapproximatelythenormalfalllevelsduringthesecondyearworkperiod.Anderson Ranchwouldbeoperatedtobalancethesystemwhichcouldresultineitherahigheroralower waterleveldependinguponthe amountofrunoffthatispredictedfortheyear.

OTHER ALTERNATIVES:

Reclamationhasstudiedseveralotherengineeringalternativesto theproposedactionwhichinvolvedifferentconfigurationsofoutlet controlstructuresandrehabilitationoftheexistingoutletworks. Otheralternativesmaybedevelopedthroughthepublic involvementprocess.Arangeofreasonablealternativesthatmeet Reclamation'sobjectives fortheprojectwillbeevaluated.

ISSUES AND CONCERNS:

Someissuesandconcernswiththeproposedactionhavealreadybeen identified.Impactsmayoccurtowaterquality,andtothreatenedbull troutandotherfishspeciesduetothereleaseofsedimentsduringthe drawdownofArrowrockReservoir.Inaddition,thepotential reductioninavailablewatertothereservoirspaceholdersduring construction,especiallyinthesecondyear,isofmajorconcern.

Bull trout, listed as a threatened species under the Endangered Species Act, are present in Arrowrock Reservoir.

MEETINGS AND COMMENTS:

Thepublicinvolvementprocessforthisprojectwillbeginwith scopingofissuesrelatedtotheproject.Publicmeetingswillbeheld todescribetheproposedactionandobtaininputonadditionalissues andconcerns.ThemeetingswillhelpReclamationidentifyissues associatedwiththeprojectthatwillbeevaluatedinanenvironmentalimpactstatement(EIS).If youareinterestedinlearningmoreabouttheproject,youarewelcomedandencouragedtoattend

Public meetings will be held at the Natural Resources Center, 1387 S. Vinnell Way, Boise, Idaho December 14, 1998 1 to 3 p.m. and 7 to 9 p.m.

themeetings.**Written comments will be accepted through December 28, 1998.** They may be sent to the attention of Mr. Steve Dunn, Bureau of Reclamation, Snake River Area Office, 214 Broadway Avenue, Boise, Idaho 83702. He may also be contacted for additional information at (208) 334-9844.

An EIS will be prepared for this action as required by the National Environmental Policy Act of 1969. It is anticipated that a draft EIS for public review and comment will be available by fall of 1999.

ARROWROCK DAM OUTLET WORKS REHABILITATION PROJECT

CHECK BOX IF YOU WISH TO REMAIN ON THE MAILING LIST ☐

RETURN THIS FORM TO: Mr. Steve Dunn, Bureau of Reclamation, Snake River Area Office, 214 Broadway Avenue, Boise, Idaho 83702.

PLEASE PRINT

DATE _____

NAME _____

STREET OR P.O. BOX _____

CITY, STATE, ZIP CODE _____

COMMENTS:

United States Department of the Interior

BUREAU OF RECLAMATION
Snake River Area Office
214 Broadway Avenue
Boise, Idaho 83702-7298

IN REPLY REFER TO:

PN-6519
ENV-6.00

10 MAR 1999

SUBJECT: ARROWROCK DAM OUTLET WORKS REHABILITATION; SUMMARY OF ISSUES AND COMMENTS RESULTING FROM THE PUBLIC SCOPING PROCESS

Dear Interested Public:

On November 20, 1998, a scoping document describing Reclamation's proposed project at Arrowrock Dam was sent to a mailing list of over 100 individuals, organizations, and agencies. In that document, Reclamation discussed the deficiencies in the outlet works at Arrowrock Dam and our proposal to replace the lower 10 Ensign valves with clamshell gates.

The scoping document invited the public to provide input on issues and concerns associated with the project. Two public scoping meetings were held on December 14, 1998, to solicit additional comments.

The enclosed document identifies issues brought forward during the scoping process and includes actual comments that illustrate each issue. These issues will be examined in the environmental impact statement (EIS) being prepared for this project. Additional issues will also be evaluated as appropriate. It is anticipated that a draft EIS for public review and comment will be available in late 1999.

Thank you for your interest in this project. If you have questions about the project, please contact Ms. Lesa Stark, Project Activity Manager, at (208) 378-5209. For questions concerning the EIS process, please contact Mr. Steve Dunn, Natural Resource Specialist, at (208) 334-9844.

Sincerely,

Jerrold D. Gregg
Area Manager

Enclosure

PUBLIC SCOPING: ARROWROCK DAM OUTLET WORKS REHABILITATION
SUMMARY OF ISSUES AND COMMENTS
February 1999

ENDANGERED SPECIES ISSUES:

Bull trout

- entrainment
- stranding
- water quality-related impacts
- reservoir productivity-related impacts
- displaced angler-related impacts
- threat to ongoing state and federal efforts to reestablish migratory bull trout

Bald Eagle

- loss of forage (fish)

COMMENTS
Evaluate the potential for further entrainment of bull trout through Lucky Peak Dam.
Implement technology to reduce or eliminate bull trout entrainment
Evaluate incidental impacts to bull trout in Lucky Peak from displaced anglers in second year.
Consider impacts to wintering and nesting bald eagles.
Consider impacts to Anderson Ranch fishery from operational changes (bull trout specifically)
Address how the loss of migratory fish and the resultant decrease in productivity of the metapopulation would threaten ongoing state and federal efforts to reestablish migratory bull trout above Kirby Dam on the upper Middle Fork Boise River.

FISH (RECREATIONAL FISHERIES AND NON-GAME) ISSUES:

- entrainment
- stranding
- water quality-related
- reservoir productivity
- flows in South Fork and lower Boise River.
- storage in Lucky Peak for winter flows

COMMENTS

Drawdown could cause major loss of all fish species due to:
1) increased entrainment into Lucky Peak,
2) dewatering and stranding fish above dam,
3) poor water quality from sedimentation with worst case potential for total fish kill.

Assess productivity and other water quality impacts from drawdown of Arrowrock.

Should provide fish stocking at Lucky Peak to meet increased fishing pressure/harvest from displaced anglers and restocking of Arrowrock.

Assess impacts to Lucky Peak productivity from suspenaea sediment and/or operation changes.

Will the target goals for the South Fork Boise River below Anderson Ranch Dam be affected?

Will the uncontracted storage space in Lucky Peak used to supplement the minimum flow of the Boise River be affected?

HYDROLOGY/WATER SUPPLY ISSUES:

- operational scenarios (dry, normal, wet) for each alternative
- effects to Arrowrock vs. Lucky Peak contractors (whose storage is where)
- refill probabilities
- winter flooding probability

COMMENTS

Concern with loss of Arrowrock storage and use of expensive Lucky Peak and Anderson Reservoir water.

Concern with potential for winter flooding in Boise.

Water supply concerns - both natural flow and storage at Arrowrock, Anderson Ranch, and Lucky Peak.

Consider effects to winter releases from Anderson Ranch Reservoir.

Address timing and extent of abnormal flows below Lucky Peak Dam, including loss of storage for winter flows below dam.

CONSTRUCTION ISSUES:

- timeframe for construction
- different alternatives to consider

COMMENTS

Ratepayers would be more confident with 1 year construction period.

Do as quickly as possible.

Can the work be done in 1 year rather than the 2 years proposal discussed?

Need coordination of road work with dam construction schedule.

Can caissons be used for construction?

Look at possibility of leaving E-valves in place (middle row) with new clamshell gates.

Is there a possibility of more ESA restrictions in the future, preventing work?

Clarify information about the project for the agricultural community.

COMMENTS

Protect Arrowrock, Lucky Peak, and Boise River for designated uses - domestic water supply, agriculture water supply, cold water biota, salmonid spawning, primary contact recreation secondary contact recreation (river only) and special resource waters.

Acquire variance if designated uses are impaired.

Turbidity concerns in reservoirs and river.

Consider water quality monitoring program before, during, and after construction; include dissolved oxygen concentrations, water temperature, turbidity, pH, and dissolved gas.

Any activities discharging fill or dredged material into waters of U.S. need 404 permit.

Clean Water Act - how to address violations of anticipated TMDL for lower Boise River. Others (downstream) may have to fix problem that Reclamation creates.

RECREATION ISSUES:

- loss of fishing opportunities (short and long term)
- angler displacement
- boating and other water-based (related to res. levels)
- hunting

COMMENTS

There would be a loss of fishing opportunity in second year. Concern that no recreation use data are available for Arrowrock.

Deviation from normal water levels on Memorial - Labor Day would be detrimental.

Concern about the rate of drawdown/refill.

Consider effects on hunting (waterfowl and shorebirds) on and near Arrowrock Reservoir.

CULTURAL RESOURCES ISSUES:

- historic properties
- traditional cultural properties, sacred sites

COMMENTS

Is restriction of access to drawdown area related to safety or cultural resources?

ECONOMIC IMPACT ISSUES:

- discussion of cost allocation
- cost comparison of all alternatives including No Action
- effects to irrigators related to construction repayment and potential loss of storage
- impacts related to recreational fishing

COMMENTS

There will be economic losses to Idaho's economy from loss of fishing opportunities in second year. Develop a reasonable but complete estimate of this loss.

The EIS should assess economic impact to irrigation entities. Cost estimates are increasing. Project must be minimized to only absolutely necessary replacements.

Consider alternative of fewer clamshell gates; related to cost savings.

Provide cost comparison of continued O&M and action alternatives and allocation of flood control benefits.

When can we expect to know the actual cost of the project?

WILDLIFE ISSUES:

- wintering deer (ice, mud hazards)
- waterfowl and shorebirds
- osprey and furbearers

COMMENTS

Consider impacts to wintering mule deer from mud flats, ice cover, etc. at Lucky Peak and Arrowrock.

Consider impacts to waterfowl and shorebirds.

Consider impacts to wildlife species, such as osprey and furbearers, that prey on fish.

WATER QUALITY ISSUES:

- sedimentation/turbidity (reservoirs and Boise River)
- impairment of designated uses
- effects to irrigators related to lower Boise TMDL
- related to Section 404 of CWA
- dissolved oxygen/gas supersaturation

TRANSPORTATION ISSUES:

road improvements

COMMENTS

Can road work be expanded to dam? Who would pay?

Will road work be done to accomplish moving heavy equipment? Who would pay for any road improvements?

COMMENTS OUTSIDE THE SCOPE OF THIS EIS

Look at potential for additional storage, for example, at Twin Springs.

Need process to lower winter flows from Arrowrock Reservoir during dry years.

Would there be a less costly alternative to discharge if Lucky Peak was not there?

Set formal minimum conservation pool in Arrowrock

Consider habitat improvement in Boise River to enhance bull trout populations

COMMENTS OUTSIDE THE SCOPE OF THIS EIS BUT, TO BE ADDRESSED DURING THE PLANNING PROCESS

Comments about who should pay:

Cost allocation - district should not pay for operational flexibility that is related to flood control.

Rehabilitation of Arrowrock should be limited to that necessary for irrigation or costs paid by Reclamation for flood control.

Cost allocation - more should be allocated to recreation, fish, and wildlife.

Would COE suspend O&M fees for use of Lucky Peak water which is more expensive than Arrowrock?

Comments about how water supply should be ensured:

Provide guarantees for water supply provided for in flood control MOA.

Reclamation should forfeit uncontracted space in Lucky Peak to cover Arrowrock space holders